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**SAN FRANCISCO WATERSHED MANAGEMENT PLANS
ELEMENTS OF THE PREFERRED ALTERNATIVE
20 FEBRUARY 1995**

On January 26, 1995, the San Francisco Public Utilities Commission (PUC) passed a resolution approving the Watershed Management Preferred Alternative. Based upon this preferred alternative, Watershed Management Plans and Environmental Impact Reports are now being prepared for both Watersheds. The Watershed Management Plans will provide detailed goals, policies and actions for SFWD operations and maintenance activities as well as public access and revenue generation activities on the watersheds. The EIRs will analyze the environmental impact of these actions.

Each element of the Preferred Alternative, as it was approved by the PUC, is outlined below. The bulleted points indicate the components of each activity. A brief discussion regarding the current state of each activity as well as the rationale for the Preferred Alternative is also provided.

WATERSHED MANAGEMENT ACTIVITIES TO SUPPORT EACH ALTERNATIVE

- Requires establishment of baseline monitoring and ongoing water quality monitoring.
- Requires a moderate level of ecological resource monitoring.
- Requires a significant reduction in the fuel load.
- Requires a moderate increase in staff to support ecological resource protection and some access. Staff responsibilities focus on implementing watershed practices to protect water quality and ecological resources, and fire management.
- Requires establishment of Best Management Practices for SFWD operations and maintenance activities.
- Requires acquisition of critical watershed lands to protect source water supplies

RATIONALE

Currently, existing SFWD plans and policies do not address the management of City watershed lands in a comprehensive manner. The Preferred Alternative provides policies and actions to achieve this.

TRAILS

EXISTING PUBLIC TRAILS

- Open to individuals and groups without a permit except where a permit is currently required.

RATIONALE

Existing public trails on the Peninsula Watershed are available to the public for hiking, running, bicycling, roller blading, and horseback riding. The Preferred Alternative provides for continuation of these activities as they occur now.

Existing trails on the Alameda Watershed are available for public use but require a permit. Permits are granted by the East Bay Regional Park District which leases parkland from SFWD. The EBRPD permits prohibit equestrians and mountain bikes. The Preferred Alternative provides for the continuation of the permit requirements on the Alameda Watershed trails.

INDIVIDUAL ACCESS TO EXISTING INTERNAL ROADS/FIRE ROADS

- Not allowed

RATIONALE

Individual access to existing internal roads and fire roads is not currently permitted. Currently, all access to internal roads is by group permit accompanied by volunteer leaders. Access to the interior parts of the watershed to unescorted individuals poses an extreme risk of fire as well as a higher risk of degradation of water quality and ecological resources.

NEW TRAILS

- Addition of new trails in zones of lesser vulnerability and risk. New trails adjacent to developed areas and SFWD watershed boundaries, and connections with urban areas and trail facilities of other agencies will be given priority. Open to individuals and groups without a permit.

RATIONALE

Currently SFWD is working with San Mateo County to develop new trails on the eastern edge of the Peninsula Watershed within the Scenic and Recreation Easement. The intent is to complete a north-south connector through the watershed through areas of low sensitivity which would require very little construction of new trails. On the Alameda Watershed, new trails have not been proposed.

Under the Preferred Alternative, new trails are restricted to areas of low vulnerability and risk in order to protect water quality and ecological resources. Current trail demand is highest for short hikes in areas close to urban areas. Proximity to existing trails and developed areas allows for connection with adjacent communities and their trail systems while protecting watershed resources from the disturbance required by the construction of new trails in less accessible areas.

GROUP ACCESS TO EXISTING INTERNAL ROADS/FIRE ROADS

- Docent/staff led
- Permit required
- Chartered groups
- Limited group size

RATIONALE

Group access to internal roads and fire roads presently occurs on the watersheds. Permits are granted for groups of 10 to 25 members of a State chartered group to hike on the watershed with qualified volunteer leaders. This activity will remain on the watersheds under the Preferred Alternative as it allows access to the internal roads and trails on the watersheds in a supervised setting. This program will expand so that individuals may make reservations and be part of a group tour of the watershed without being a member of a chartered group. The docent program will not become a rate payer expense.

EQUESTRIANS

- Not allowed except on existing public trails

RATIONALE

Historically, equestrians have paid an annual fee and received a permit to ride on internal trails within the Peninsula Watershed. The Preferred Alternative revokes these special privileges for equestrians and gives them the same rights as other watershed visitors - access to existing public trails and to additions to the existing trail system which will be open to the public.

MOUNTAIN BIKING

- Allowed on designated existing and new trails only

RATIONALE

Mountain biking is currently allowed on the public trails on the Peninsula Watershed. The activity is not allowed on the EBRPD trails on the Alameda Watershed. Experiences of the Marin Municipal Water District and other agencies throughout the State and country have found that mountain biking is an extremely difficult sport to control. Bikers who do not stay on designated trails and instead cut new trails, contribute to erosion and damage to natural resources. Also, conflicts between mountain bikers and other trail users (hikers, equestrians) often result. The Preferred Alternative provides for the riding of mountain bikes on designated existing and new public trails only. Mountain biking will continue to be prohibited on the EBRPD trails and on internal roads within the watersheds.

Admission to the course is based on a selection of essays and a letter of recommendation. The essays are designed to assess the applicant's knowledge of the course material and their ability to write clearly and effectively. The letter of recommendation should be from a person who knows the applicant well and can speak to their academic and personal qualities.

The course is designed to provide a comprehensive overview of the field of study. It covers the major theories and methods of research, as well as the latest developments in the field. The course is taught by leading experts in the field, who bring their own research and experience to the classroom. The course is also designed to be interactive, with students encouraged to participate in discussions and group work.

The course is designed to be flexible, with students able to choose from a range of elective modules. This allows students to tailor the course to their own interests and career goals. The course is also designed to be challenging, with a high level of academic rigor. Students are expected to engage with the material and to develop their own critical thinking and problem-solving skills.

Course Objectives

- To provide a comprehensive overview of the field of study.
- To develop students' critical thinking and problem-solving skills.
- To encourage students to engage with the material and to develop their own research interests.

The course is designed to be a foundation for further study in the field. It provides students with the knowledge and skills they need to undertake more advanced research and to develop their own research interests. The course is also designed to be a valuable experience for students, with a focus on developing their academic and personal qualities. The course is taught by leading experts in the field, who bring their own research and experience to the classroom. The course is also designed to be interactive, with students encouraged to participate in discussions and group work.

Course Structure

- The course is divided into three main parts: Introduction, Core Modules, and Elective Modules.

The Introduction module provides an overview of the field of study and the course material. The Core Modules cover the major theories and methods of research, as well as the latest developments in the field. The Elective Modules allow students to choose from a range of modules that reflect their own interests and career goals. The course is designed to be a foundation for further study in the field, with a focus on developing students' critical thinking and problem-solving skills.

Assessment

- Assessment is based on a combination of written and practical work.

The written work includes essays, reports, and a final dissertation. The practical work includes laboratory work, fieldwork, and the development of research proposals. The course is designed to be a foundation for further study in the field, with a focus on developing students' critical thinking and problem-solving skills. The course is taught by leading experts in the field, who bring their own research and experience to the classroom. The course is also designed to be interactive, with students encouraged to participate in discussions and group work.

FISHING

- Not allowed, except on designated streams and quarries

RATIONALE

Fishing is not presently allowed on any of the watersheds' reservoirs. Fishing is an activity which occurs in one of the most sensitive areas of the watershed - the water's edge. The water's edge is included in the High Vulnerability Zone for water quality. This area is extremely susceptible to erosion and any substance that spills at the water's edge will find its way into the reservoir immediately. To protect water quality, fishing will not be permitted in any of the existing reservoirs. In the future, fishing may be allowed on certain watershed streams as regulated by the Department of Fish and Game and may also be allowed in the reclaimed quarries in the Sunol Valley.

DAY USE AND ENVIRONMENTAL EDUCATION CENTERS

- Consider one Environmental Education Center on each watershed
- Docent led activities
- Day use only
- Picnicking at designated sites only

RATIONALE

Presently, there are no visitor centers or educational centers on either watershed. There is a visitor center, managed by the EPRPD at their Sunol Wilderness Parking Area. Because both watersheds provide tremendous educational opportunities, a day use environmental education center on each watershed is included in the Preferred Alternative. These centers could provide education for school groups and the general public regarding water quality and water quality protection, the water supply, the watershed ecosystem, and the principles of a sustainable environment. They could also provide a starting point for docent led group hikes, an area for picnics, and an area for docent training. Conversion of an existing facility or construction of a new facility, as well as operation of the environmental education center will not become a rate payer expense.

SCIENTIFIC STUDY

- By permit only

RATIONALE

Scientific study is presently allowed on both watersheds with a permit. The Preferred Alternative continues this practice in order to increase the understanding of the watersheds' resources and biodiversity. Frequently, the findings of scientific study on the watersheds contribute to SFWD's understanding and knowledge base of the watersheds. Using their new GIS system, SFWD will now be able to update their data base with the results of any scientific studies on the watersheds. In addition, SFWD will be able to add other features and planned modifications to the GIS and study the impacts of these modifications on the watershed environment.

GOLF COURSES

- Retain existing courses
- Expansion will be considered in areas of low vulnerability/sensitivity
- No new courses

RATIONALE

There is currently one golf course on each watershed - the 18-hole Crystal Springs Golf Course on the Peninsula Watershed and the 36-hole Sunol Golf Course on the Alameda Watershed. Because these lands are already disturbed, the existing golf courses will remain under the Preferred Alternative. However, they will be subject to strict monitoring requirements and other guidelines for water quality protection. The Preferred Alternative prohibits new courses because they require conversion of several hundreds acres of watershed land from a natural habitat to a man-made landscape. This conversion is not in keeping with the Watershed Management Goals.

• The following are the main objectives of the study:

1. To determine the extent of the problem.

2. To identify the factors contributing to the problem.

3. To determine the impact of the problem on the community.

4. To identify the needs of the community.

5. To develop a plan of action to address the problem.

6. To implement the plan of action.

7. To evaluate the effectiveness of the plan of action.

8. To report the findings of the study.

II. Literature Review

• The following are the main findings of the literature review:

1. The problem is widespread.

2. The problem is caused by a number of factors.

3. The problem has a significant impact on the community.

4. The community has a number of needs.

5. A plan of action has been developed to address the problem.

6. The plan of action has been implemented.

7. The plan of action has been evaluated and found to be effective.

8. The findings of the study have been reported.

III. Methodology

• The following are the main methods used in the study:

1. Surveys

2. Interviews

3. Focus groups

4. Document analysis

5. Content analysis

6. Statistical analysis

7. Qualitative analysis

8. Quantitative analysis

IV. Results

• The following are the main results of the study:

1. The problem is widespread.

2. The problem is caused by a number of factors.

3. The problem has a significant impact on the community.

4. The community has a number of needs.

5. A plan of action has been developed to address the problem.

6. The plan of action has been implemented.

7. The plan of action has been evaluated and found to be effective.

8. The findings of the study have been reported.

GRAZING (ALAMEDA)

- Animal Unit Months (AUMs) greatly reduced from existing.
- Grazing managed to protect water quality, reduce fire hazard and enhance native vegetation
- Protect water and ecological resources from cattle impacts

RATIONALE

Grazing is currently allowed on the Alameda Watershed. Historically management of these activities has been less than adequate and cattle have damaged the streams and riparian corridors. Fencing was not maintained as required by the lessee and cattle were entering the reservoirs. However, when small numbers of cattle are well managed, they serve as fire management tools and can help increase native vegetation and reduce invasive exotic species. In order to utilize the beneficial aspects of grazing, the Preferred Alternative provides for a strict cattle management program, accompanied by watershed monitoring, to reduce the fire hazard on the watershed and help increase native vegetation and reduce exotics.

QUARRIES (ALAMEDA)

- Mine existing pits deeper
- Expand operations south of I-680
- Consider expansion within existing leased acreage north of I-680
- Accelerate reclamation
- Restore quarries for water storage and recreational use

RATIONALE

There are active aggregate quarries in the Sunol Valley, south of I-680, on the Alameda Watershed. There are also leases for future mining operations lands both south and north of I-680. SFWD entered into these leases prior to the commencement of the watershed management planning process. SFWD plans to control the timing of quarrying of these new pits and expedite conversion of existing pits to water storage impoundments. To facilitate this, the Preferred Alternative requires that the existing quarries are mined deeper before expansion into unmined areas can occur. It also requires that reclamation of the existing pits occur prior to expansion into unmined areas. When the existing pits are restored, they will provide SFWD with valuable additional water storage during wet seasons and also provide the opportunity for water-based recreation as the water stored in these reservoirs would not be primary drinking water.

NURSERIES (ALAMEDA)

- Require greater setbacks from waterbodies

RATIONALE

Existing nurseries in the Alameda Watershed are located in the Sunol Valley along Alameda Creek. Presently these nurseries are required to provide reports to the Department of their pesticide and fertilizer use. Setting the nurseries farther back from Alameda Creek provides a larger buffer between the chemicals used by the nurseries and Alameda Creek. SFWD provides water to Alameda County Water District (ACWD) via Alameda Creek and the impact of these activities on downstream uses is of concern to SFWD and ACWD.

INCOMPATIBLE ACTIVITIES:

Unauthorized Boating on Existing Reservoirs

Campgrounds

Camping

Unauthorized Motorized Vehicles

Water Activities in Existing Reservoirs

Shooting Ranges

Hang Gliding

Off-Trail Use

Off-Road Use

Geology (Alameda)

- The Alameda Valley is a broad, flat, alluvial valley, bounded by low hills on the north and south.
- The valley floor is composed of recent alluvium, which is a mixture of sand, silt, and clay.
- The hills on the north and south are composed of older, more resistant rock, which is a mixture of sandstone and shale.

Climate

The climate of the Alameda Valley is semi-arid, with hot, dry summers and cool, dry winters. The average annual precipitation is about 10 inches. The temperature ranges from a high of about 100°F in the summer to a low of about 30°F in the winter. The valley is subject to frequent droughts, and the soil is generally very dry. The vegetation is sparse, consisting mainly of shrubs and grasses. The most common shrubs are sagebrush and mesquite. The most common grasses are bunchgrass and wildflower. The valley is also home to a number of rare and endangered plants and animals.

Vegetation (Alameda)

- The vegetation of the Alameda Valley is sparse and consists mainly of shrubs and grasses.
- The most common shrubs are sagebrush and mesquite.
- The most common grasses are bunchgrass and wildflower.
- The valley is also home to a number of rare and endangered plants and animals.

Wildlife

The wildlife of the Alameda Valley is sparse and consists mainly of small mammals, birds, and reptiles. The most common mammals are rabbits, mice, and rats. The most common birds are quail, doves, and sparrows. The most common reptiles are lizards and snakes. The valley is also home to a number of rare and endangered species, including the Alameda snail, the Alameda kangaroo rat, and the Alameda pocket mouse. The valley is also a good place to see a variety of wildflowers, including desert marigold, desert poppy, and desert lupine.

Water Resources (Alameda)

- The water resources of the Alameda Valley are limited and consist mainly of groundwater.

Water Use

The water use of the Alameda Valley is limited and consists mainly of agriculture and domestic use. The most common agricultural crops are alfalfa, cotton, and wheat. The most common domestic uses are for drinking water and irrigation. The valley is also home to a number of small businesses, including restaurants, hotels, and gas stations. The valley is also a popular destination for tourists, who come to see the unique landscape and culture.

Recreation Activities

- The recreation activities of the Alameda Valley are limited and consist mainly of hunting and fishing.

Conservation

Conservation

Conservation

Conservation

Conservation

Conservation

Conservation

Conservation

Dogs except Guide Dogs

Removal of Watershed Resources (Plant Materials, Firewood, Cultural Resources)

Release of Domestic Animals

Smoking

Littering

Alcohol

Unauthorized Fires

Hunting shall be allowed for animal control purposes only, by agreement with SFWD

RATIONALE

A number of existing regulations are in place prohibiting various activities on the watersheds. These include regulations set forth by the California Department of Fish and Game, California Department of Forestry, and San Mateo County Park Department. In addition, SFWD currently prohibits a number of activities on the watersheds. As part of the Preferred Alternative, the activities listed above will be formally prohibited as they are considered in conflict with one or more of the Watershed Management Goals. Existing regulation imposed by other agencies will also remain in force and will also be incorporated into the watershed management plans.

OTHER WATERSHED ACTIVITIES AND USES

- Policies to be developed for additional compatible activities and uses

RATIONALE

The watershed activities addressed in this document are those of the most concern to SFWD and to the public. The Preferred Alternative will also include policies and actions for activities not discussed herein. It will also address how SFWD will consider new uses that are not specifically addressed in the Watershed Management Plans.

FUNDING FOR RECREATIONAL ACTIVITIES

- The cost of providing recreational facilities and docents shall not be borne by water rate payers.

RATIONALE

SFWD's primary responsibility is to provide drinking water to its customers and rate payers and to maintain the facilities necessary for transport, storage and treatment of this water. During the January PUC hearing the issue of payment for recreational activities and docents was discussed by the commissioners. In response to this issue, an additional motion was made, seconded and passed by the PUC which stated that non-water related costs would not be borne by the rate payers.

ELEMENTS OF THE WATERSHED MANAGEMENT PREFERRED ALTERNATIVE

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TRAILS

EXISTING PUBLIC TRAILS

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INDIVIDUAL ACCESS TO EXISTING INTERNAL ROADS/FIRE ROADS

- Not allowed

NEW TRAILS

- Addition of new trails in zones of lesser vulnerability and risk. New trails adjacent to developed areas and SFWD watershed boundaries, and connections with urban areas and trail facilities of other agencies will be given priority. Open to individuals and groups without a permit.

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